

CLEEN Planned Solicitation

Presented to: CLEEN Market Research Conference

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**Federal Aviation
Administration**



- **CLEEN Background**
- **Market Research Conference**
- **Market Survey**
 - Draft Statement of Work
 - Market Survey Questions
- **Major Milestones Anticipated for Procurement Schedule**
- **Other Information**



CLEEN Background

- **Continuous Lower Energy, Emissions and Noise Technology Program.**
- **Advances NextGen environmental goals by working with industry to mature promising clean and quiet technologies.**



CLEEN Background -- Intended Outcomes

- **Demonstrate aircraft technologies that reduce noise, fuel burn, and emissions.**
 - Take TRL 3-4 technologies to a developmental level (TRL 6-7) that will allow quicker industry uptake.
- **Advance and demonstrate alternative fuels for aviation, with a focus on renewable options.**



CLEEN Background– Timeframe and Funding

- **Timeframe: Fiscal Year 2009-2014+**
 - “+” dependent on success of initial efforts
 - **Funding requested in President’s FY-09 budget:**
 - approximately \$13M in Fiscal Year 2009
 - approximately \$110M total Fiscal Years 2010-2014*
 - **1:1 cost share**
- * Per 2008 National Aviation Research Plan



CLEEN Background -- Key Elements of Program Structure

- **FAA will execute the program with support from NASA**
 - NASA participating in program implementation and guiding the technical direction.
- **FAA will issue CLEEN solicitation**
 - NASA participating in defining requirements and technical evaluation
- **Consortium**
 - Made up of solicitation winners
 - Managed by the Government



Market Research Conference

- **Opportunity to share our plans; ask us questions; solicit clarification, and offer improvement to the program scope.**
- **Opportunity for potential bidders to identify partners.**
- **Conference participant presentations**
- **One-on-One Sessions**
- **FAA/NASA available for post conference discussions**
- **Questions at conference must be submitted in writing**



Market Survey

- <http://faaco.faa.gov/posting.cfm?PostIDtemp=6670>
- **Standard process used by FAA to gather information on whether qualified bidders exist.**
- **Requests information on capabilities, expected programmatic approach, teaming partners, and responses to questions on potential technology efforts.**



Market Survey -- continued

- **Written responses due by June 9.**
 - Submitted through website
- **Responses are not released to public.**
- **Draft CLEEN Statement of Work – included with market survey materials on website.**



Draft Statement of Work – CLEEN Goals

- **Develop and demonstrate (TRL 6-7) certifiable aircraft technology that reduces:**
 - Fuel burn by 33% compared to current technology;
 - LTO NOx emissions by 60 percent relative to CAEP 6;
 - Noise levels by 32 EPNdB cumulative, relative to Stage 4;
- **Goals are aggressive**
- **Determine extent to which technologies can be used for retrofit or re-engine**



Draft Statement of Work – CLEEN Goals (continued)

- **The feasibility of use of alternative fuels in aircraft systems, including**
 - Successful demonstration, and
 - Quantification of costs and benefits, including
 - Quantification of emissions reduction and tradeoffs
 - Consideration of lifecycle emissions, including production
 - Quantification of any effects on aircraft and/or engine performance



Draft Statement of Work – CLEEN Goals (continued)

- **Alternative fuels transition strategies that enable “drop in” replacement for petroleum derived turbine engine fuels with no compromise in safety, including**
 - Consideration of production in sufficient quantities to meet commercial aviation’s needs.



Draft Statement of Work – Cost Share

- **Cost Share Requirement**
 - 1:1 Cost Share
 - Cash, non-cash (in-kind) or both
 - Acceptable in-kind, includes
 - such items as equipment, facilities, labor, office space, etc.
 - Unacceptable in-kind, includes
 - work performed using U.S. Government funding
 - previous Internal Research and Development (IRAD) investments, and
 - student tuition funded by an academic institution.



Draft Statement of Work -- Work Elements

- **Draft SOW includes five work elements leading to technology demonstration tests and technology assessments**
 - Project management
 - Technology maturation
 - Systems engineering and integration
 - Technology demonstration tests
 - Technology assessments



Draft Statement of Work – Period of Performance

- **5 year period of performance: FY2009–2014**
- **3 year base period: FY2009-2012**
 - FAA's intent is that some TRL 6-7 demonstrations would occur during the 3 year base period.
- **2 option years**
 - TRL 6-7 demonstrations that are not feasible during base period, or
 - TRL 6-7 demonstrations for improved or additional technologies relative to base period TRL 6-7 tests.



Market Survey Questions

- 1) Noise, emissions, and fuel burn reduction technologies that might be proposed and their potential contribution to meeting CLEEN goals.
- 2) Aircraft and engine class that noise, emissions, and fuel burn technologies would be demonstrated on.
- 3) Types of alternative fuels that might be proposed for demonstration, and the aircraft and engine model to be used for demonstration.



Market Survey Questions -- Continued

- 4) Previous experience in technology development at high TRL's.
- 5) Previous experience in alternative fuels efforts for turbine powered aircraft.
- 6) Type(s) of cost share bases anticipated to be proposed.
- 7) Expect to propose a TRL 6-7 demonstration test within the 3 year base period (i.e., by 2012)?
- 8) Any other feedback on CLEEN or Draft SOW?



Major Milestones for Procurement Schedule (Anticipated)

- **Issue Solicitation: September 1**
- **Proposals submitted by Oct 14**
- **Proposal evaluation completed: Nov 12**
- **Contract award(s): January '09**
 - Subject to Congressional budget approval



Other Information

- **Intellectual Property (TBD)**
- **Participation by non-US companies (TBD)**
- **FAA & NASA presentations will be made available online.**
- **For further information contact:**
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Thank You

